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10/021,629	12/19/2001	Robert Alexander Mann	12560-US	9206

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EXAMINER

MITCHELL, JASON D

ART UNIT PAPER NUMBER

2193

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/021,629	Applicant(s) MANN ET AL.	
	Examiner Jason Mitchell	Art Unit 2193	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17, 19-24, 26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19-24, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is in response to remarks filed on 7/25/05.

At Applicant's request claims 18 and 25 have been canceled, claims 1-13, 19, 22 and 26-27 have been amended. Claims 1-17, 19-24 and 26-27 are pending in this case.

#### ***Response to Amendment***

The amended claims filed on 7/25/05 under 37 CFR 1.131 are sufficient to overcome the double patenting rejection based on the 10/021,080 reference.

#### ***Response to Arguments***

**Applicant's arguments, on pg. 13 regarding the objection to claim 11 have been fully considered and are persuasive.** The objection to claim 11 has been withdrawn.

**Applicant's arguments on pp. 13-14 regarding the 35 USC 102(b) rejection of claims 1 and 12 have been fully considered but they are not persuasive.**

Starting in the paragraph bridging pp. 13 and 14, Applicant states:

It is the Examiner's position that the Haggerty reference teaches the dictionary of operations, the Examiner pointing to the Name Service mentioned on page 75 column 1 paragraph 2 in the Haggerty reference. The Examiner is respectfully directed to the detailed description of the Name Service presented by Haggerty on page 75 in the last paragraph of column 1. Haggerty clearly states that "[t]he naming service [...] is used as a top-level object lookup mechanism..." which is different from a dictionary of operations used for resolving operation names. Haggerty also fails to teach a managed entity object class implementing an invoke function which invokes operations by name.

Examiner respectfully disagrees. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Further, it would appear that Haggerty's 'Naming Service' is in fact 'used for resolving operation names' ('object lookup mechanism') and 'invoking operations by name' ('resolve object references').

Accordingly the rejections of claims 1 and 12 under 35 USC 102(b) are maintained. Further the respective rejections of claims 2-11, 13-17, 19-24 and 26-27 are also maintained.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.** The claims represent a 'framework for a network management and service provisioning system'. A framework provides an abstract set of rules and algorithms but does not, in and of itself, possess a tangible embodiment. To be considered tangible (and thus statutory), the claim must recite some tangible structure (i.e. a computing environment or apparatus). Accordingly claims 1-10 are rejected under 35 USC 101 as being not tangibly embodied.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over “The Benefits of CORBA-Based Network Management” by Haggerty and Seetharaman (Haggerty) in view of “The Common Object Request Broker: Architecture and Specification” (CORBA).**

**Regarding Claims 1 and 11:** Haggerty discloses (a.) a registry for run-time registration of at least one plug-in brokering access to network management and service provisioning enabling technologies (pg. 76, col. 1, par. 2 ‘The topology objects are created through OpenView Map additions to the MOM or by auto discovery’); (d.) an implementation of a single managed entity object class (pg. 76, col. 2, par. 5 ‘All objects in the model derive from one base object called a Managed Object’), the single managed entity object class being run-time derivable via type derivation (pg. 76, col. 1, par. 2 ‘The topology objects are created through OpenView Map additions to the MOM or by auto discovery’); into a hierarchy of managed data network object types based on the parsed directive, (pg. 77, col. 1, par. 1 ‘derived objects do not require much implementation since higher level objects implement most of there properties’) the single management entity object class further comprising an implementation of an invoke function for invoking at least one operation by name (pg. 76, col. 2, par. 5

'defines base attributes and operations for all objects') (e.) a dictionary of operations holding a roster of operation names of registered operations, each operation defining a method associated with a managed data network object type (pg. 75, col. 1, par. 2 'The first type consists of ... the OMG Naming Service'); and ; (f.) an interpreter for processing messages received from at least one network management and service provisioning software application (pg. 78, col. 2, par. 2 'integrates with OpenView') by invoking a registered operation by the corresponding operation name on an instance of the derived managed data network object type (pg. 78, col. 2, par. 2 'By using CORBA'); wherein a separation is achieved between managed data network entities, enabling technologies and software applications (Fig. 4), the separation enabling independent development, maintenance and troubleshooting in providing network management and service provisioning (pg. 79, col. 1, par. 1 'ProSphere network management system ... leads to an extremely open, extensible and distributed solution') and the run-time derivation of the single managed entity object class and invoking the operation by name minimizing the need to re-code and re compile framework software application code in support of new managed entity object types (pg. 77, col. 1, par. 1 'adding support for new equipment requires only creating a new object definition, which fits into the model'). While Haggerty does not explicitly disclose a parser/lexical analyzer for processing managed data network entity specifications/directives, these are inherent in his disclosure on pg. 76, col. 1, par. 2 'The topology objects are created through OpenView Map additions to the MOM' and pg. 77, col. 1, par. 1 'higher level objects implement most of their properties and functions'. Without parsing and lexically analyzing the

addition, it would have been impossible to create the managed entity object class instance. Further the disclosure that these 'topology objects' could also be created through 'auto detection' inherently requires the ability to handle 'generic' objects.

Further Haggerty does not explicitly disclose polymorphic operation invocation, but does disclose the use of CORBA (pg. 75, col. 1, par. 5).

CORBA teaches run time support for polymorphic operation invocation (Section 9.2.3.7 'The copy operation ... is polymorphic'; and Section 10.3.1 'Interface repositories ... manipulate the type information at run time').

Consequently, It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate polymorphism into Haggerty's system in order to provide more a more flexible configuration management tool (pg. 74, col. 1, par. 7 'provide customers with an easy means to configure and monitor GDC equipment').

**Regarding Claim 2:** The rejection of claim 1 is incorporated; further while Haggerty does not explicitly disclose the specification includes at least one attribute, he does disclose that the object being derived from the specification allows for attributes (pg. 77, col. 1, par. 1 'the derived objects ... implement most of their properties and functions'). It would therefore have been obvious to a person of ordinary skill in the art at the time of the invention to include specification of at least one attribute in the specification.

**Regarding Claim 5:** The rejection of claim 1 is incorporated; further while Haggerty does not explicitly disclose the specification includes at least one method, he does disclose that the object being derived from the specification allows for methods (pg. 77, col. 1, par. 1 'the derived objects ... implement most of their properties and functions'). It

would therefore have been obvious to a person of ordinary skill in the art at the time of the invention to include specification of at least one implementation of the operation having the operation name.

**Regarding Claim 6:** The rejection of claim 1 is incorporated; further while Haggerty does not explicitly disclose at least one directive includes an attribute specification, he does disclose that the object being derived from the specification allows for attributes (pg. 77, col. 1, par. 1 'the derived objects ... implement most of their properties and functions'). It would therefore have been obvious to a person of ordinary skill in the art at the time of the invention to include at least one directive specifying of at least one attribute.

**Regarding Claim 7:** The rejection of claim 6 is incorporated; further while Haggerty does not explicitly disclose the attribute specification further specifies managed data network object type inheritance, he does disclose that the object being derived from the specification allows for inheritance (pg. 77, col. 1, par. 1 'higher level objects implement most of their properties and functions'). It would therefore have been obvious to a person of ordinary skill in the art at the time of the invention to further specify managed data network object type inheritance.

**Regarding Claim 8:** The rejection of claim 1 is incorporated; further Haggerty discloses the network management and service provisioning enabling technologies include support for at least one of a persistence method and a persistence entity (pg. 76, col. 1, par. 2 'The topology objects ... contain information pertaining to addressing, type, uniqueness, resources, and status').



**Regarding Claim 9:** The rejection of claim 1 is incorporated; further Haggerty discloses at least one directive further specifies a command sequence to be followed in using a specific registered enabling technology (pg. 76, col. 1, par. 2 'The topology objects ... contain information pertaining to addressing, type, uniqueness, resources, and status').

**Regarding Claim 10:** The rejection of claim 9 is incorporated; further Haggerty discloses the framework further comprising at least one registered enabling technology specific lexical analyzer stub for interpreting at least one enabling technology specific directive (pg. 78, col. 1, par. 1 'The ProSphere user interfaces use the compiled stubs from IDL to interact with the objects').

**Regarding Claim 12:** Haggerty discloses (a.) registering with a network management and service provisioning framework at least one plug-in brokering access to at least one network management and service provisioning enabling technology (pg. 76, col. 1, par. 2 'The topology objects are created through OpenView Map additions to the MOM or by auto discovery'); (c.) deriving a single managed entity object class into a managed entity object type hierarchy of at least one managed data network object type via type derivation (pg. 76, col. 2, par. 5 'All objects in the model derive from one base object called a Managed Object') in accordance with at least one entity directive parsed from the managed data network entity specification (pg. 76, col. 1, par. 2 'The topology objects are created through OpenView Map additions to the MOM'); and (d.) registering with a dictionary of operations at least one operation name specified in the managed data network entity specification, the operation name corresponding to an operation implemented by the derived managed data network object type (pg. 75, col. 1, par. 5

'bind a name to an object reference'); and (e.) processing at least one message received by the framework from at least one network management and service provisioning software application (pg. 78, col. 2, par. 2 'integrates with OpenView') by invoking the registered operation by the corresponding operation name registered with the dictionary of operations on a instance of the derived managed data network object type (pg. 75, col. 1, par. 5 'resolve object references'); the framework acting as an enabler by separating managed data network entities, enabling technologies and software applications (Fig. 4), and as a facilitator there between (pg. 79, col. 1, par. 1 'ProSphere network management system ... leads to an extremely open, extensible and distributed solution').

While Haggerty does not explicitly disclose a parser for processing managed data network entity specifications, a parser is inherent in his disclosure on pg. 76, col. 1, par. 2 'The topology objects are created through OpenView Map additions to the MOM'. Without parsing the addition, it would have been impossible to create the managed entity object class instance.

Further Haggerty does not explicitly disclose polymorphic operation invocation, but does disclose the use of CORBA (pg. 75, col. 1, par. 5).

CORBA teaches run time support for polymorphic operation invocation (Section 9.2.3.7 'The copy operation ... is polymorphic'; and Section 10.3.1 'Interface repositories ... manipulate the type information at run time').

Consequently, It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate polymorphism into Haggerty's system in order to

provide more a more flexible configuration management tool (pg. 74, col. 1, par. 7  
'provide customers with an easy means to configure and monitor GDC equipment')

**Regarding Claim 13:** The rejection of claim 12 is incorporated; further Haggerty discloses processing the at least one message received by the framework, the method comprises a further step of deriving a containment hierarchy of managed data network object type instances corresponding to field installed data network equipment (Fig. 4).

**Regarding Claim 14:** The rejection of claim 12 is incorporated; further Haggerty discloses registering with the framework at least one plug-in, the method further comprises a step of run-time registering the at least one plug-in (pg. 76, col. 1, par. 2 'The topology objects are created through OpenView Map additions to the MOM').

**Regarding Claim 15:** The rejection of claim 14 is incorporated; further Haggerty discloses wherein run-time registering the at least one plug-in, the method further comprises a prior step of: selecting the at least one plug-in for registration thereof (pg. 76, col. 1, par. 2 'The topology objects are created through OpenView Map additions to the MOM').

While Haggerty does not explicitly disclose selecting the at least one plug-in for registration thereof, It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide a user with the ability to select the at least one plug-in for registration thereof, instead of having to re-define the managed data network entity prior to adding it to the MOM.

**Regarding Claim 16:** The rejection of claim 12 is incorporated; further Haggerty discloses a step of: run-time loading the at least one managed data network entity

Art Unit: 2193

specification (pg. 76, col. 1, par. 2 'The topology objects are created through OpenView Map additions to the MOM').

**Regarding Claim 17:** The rejection of claim 16 is incorporated; further Haggerty discloses run-time loading the at least one managed data network entity specification, the method further comprises a prior step of: selecting the at least one managed data network entity specification (pg. 76, col. 1, par. 2 'The topology objects are created through OpenView Map additions to the MOM').

While Haggerty does not explicitly disclose selecting the at least one managed data network entity specification, It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide a user with the ability to select the at least one managed data network entity specification instead of having to re-define the managed data network entity prior to adding it to the MOM.

**Regarding Claim 19:** The rejection of claim 12 is incorporated; further Haggerty discloses wherein deriving a single managed entity object class via type derivation, the method further comprises a step of setting at least one attribute (pg. 77, col. 1, par. 1 'the derived objects ... implement most of their properties and functions').

**Regarding Claim 20:** The rejection of claim 12 is incorporated; further Haggerty discloses wherein prior to processing the at least one message received by the framework from the at least one software application, the method further comprises a step of: registering the at least one software application with the framework in accordance with the parsed entity directive (Fig. 2, ProSphere Application Objects').

**Regarding Claim 21:** The rejection of claim 12 is incorporated; further Haggerty discloses wherein processing the at least one message received by the framework; the method further comprises a step of: implementing a directive specified in the at least one managed data network entity specification using a lexical analyzer stub associated with the at least one plug-in (pg. 78, col. 1, par. 1 'The ProSphere user interfaces use the compiled stubs from IDL to interact with the objects').

**Regarding Claim 22:** the rejection of claim 21 is incorporated; further Haggerty discloses wherein implementing the directive, the method further comprises a step of: instantiating managed data network object type (pg. 76, col. 1, par. 2 'The topology objects are created through OpenView Map additions to the MOM').

**Regarding Claim 23:** The rejection of claim 21 is incorporated; further Haggerty discloses wherein implementing the directive the method further comprises a step of: effecting a change in a network state of a managed data transport network in a realm of management (pg. 78, col. 1, par. 1 'The ProSphere user interfaces use the compiled stubs from IDL to interact with the objects').

**Regarding Claim 24:** The rejection of claim 12 is incorporated; further Haggerty discloses wherein subsequent to processing the at least one message received by the framework; the method further comprises a step of: sending a message to the software application (pg. 78, col. 2, par. 2 'integrates with OpenView').

**Regarding Claim 26:** The rejection of claim 25 is incorporated; further Haggerty discloses making a dictionary entry in the dictionary of operations, (pg. 75, col. 1, par. 5 'provides the ability to bind a name to an object reference').

Art Unit: 2193

**Regarding Claim 27:** The rejection of claim 25 is incorporated; further Haggerty discloses wherein making the dictionary entry in the dictionary, the method further comprises a step of using name spaces techniques to associate each operation name with a corresponding derived managed data network object type with corresponding registered methods (pg. 75, col. 1, par. 5 'provides the ability to bind a name to an object reference').

**Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over "The Benefits of CORBA-Based Network Management" by Haggerty and Seetharaman (Haggerty) in view of "The Common Object Request Broker: Architecture and Specification" (CORBA) and further in view of US 5,911,076 to Acker et al (Acker).**

**Regarding Claim 3:** The rejection of claim 1 is incorporated further Haggerty does not disclose the managed data network entity specification includes at least one human readable file but does disclose the use of an IDL (pg. 76, col. 2, par. 5 'The managed object supports an IDL interface')

Acker teaches that the SOM compiler generates a human-readable file (col. 5, lines 27-30 'the output forms can be ... a documentation file ... a printed interface description') from an Interface Definition Language (IDL) definition (col. 5, lines 7-8 'The SOM compiler reads the IDL definition of a class interface and generates several different output files') in an analogous art for the purpose of documenting the interfaces of classes.

Art Unit: 2193

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a compiler as taught in Acker (col. 5, lines 7-8) to generate the IDL interfaces disclosed in Haggerty (pg. 76, col. 2, par. 5) thereby producing the 'printed interface description', because one of ordinary skill in the art would have been motivated to provide documentation for the interfaces (col. 5, lines 27-30)

**Regarding Claim 4:** The rejection of claim 3 is incorporated further; Haggerty discloses run-time derivable managed data network object types (pg. 76, col. 1, par. 2 'The topology objects are created through OpenView Map additions to the MOM or by auto discovery') but does not disclose each human-readable file is an attribute file holding attributes corresponding to a single managed data network object type but does disclose the use of an IDL (pg. 76, col. 2, par. 5 'The managed object supports an IDL interface').

Acker teaches the human-readable file is an attribute file holding attributes corresponding to a single managed data network object type (col. 5, lines 27-30 'the output forms can be ... a printed interface description') in an analogous art for the purpose of documenting the interfaces of classes.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a compiler as taught in Acker (col. 5, lines 7-8) to generate the IDL interfaces disclosed in Haggerty (pg. 76, col. 2, par. 5) thereby producing the 'printed interface description', because one of ordinary skill in the art would have been motivated to provide documentation for the interfaces (col. 5, lines 27-30).

### ***Double Patenting***

The amended claims of both the instant application and copending application 10/021,080 have changed the limitations recited in the respective claims enough to overcome the provisional double patenting rejections, which are consequently withdrawn.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Mitchell whose telephone number is (571) 272-3728. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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10/04/05



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